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Supreme Court, U.S.
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No. 08-

IN THE

Supreme Court of the United States

TIP SYSTEMS, LLC and
TIP SYSTEMS HOLDING COMPANY, INC.,

Petitioners,

v.

INDEPENDENT TECHNOLOGIES, INC.,
TZ HOLDINGS, INC., T-NETIX
TELECOMMUNICATIONS SERVICES, INC.,
T-NETIX, INC., EVERCOM HOLDINGS, INC.,
EVERCOM SYSTEMS, INC., and EVERCOM, INC.,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

SUPPLEMENTAL APPENDIX

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US006009169A

United States Patent [19]

Styron

[11] Patent Number: 6,009,169

[45] Date of Patent: Dec. 28, 1999

[54] INMATE PHONE

[76] Inventor: Mark Styron, 3719 Moonlite Dr., Pasadena, Tex. 77505

[21] Appl. No.: 09/017,982

[22] Filed: Feb. 3, 1998

[51] Int. Cl.[6] H04M 1/00

[52] U.S. Cl. 379/453; 379/420

[58] Field of Search 379/428, 447, 379/453, 420, 446, 454, 455

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U.S. PATENT DOCUMENTS

2,277,907	3/1942	DePonte .	
2,844,659	7/1958	Shaw	379/420
3,144,513	8/1964	Sherron .	
4,101,735	7/1978	Brideabaugh .	
4,104,485	8/1978	Pensal et al. .	

Primary Examiner—Jack Chiang
Attorney, Agent, or Firm—Michael I Kroll

[57] ABSTRACT

An inmate phone (10) of the type having a housing (12) in an interior wall (14) of a prison (16). A push-button dialing pad (18) is mounted within a front wall (20) of the housing (12) with the push-button digits (22) of the push-button dialing pad (18) extending out of the front wall (20). A telephone handset (24) is provided, being a handle (26) with an earpiece (28) at one end and a mouthpiece (30) at an opposite end. A handset cord (32) is electrically connected between the push-button dialing pad (18) and the telephone handset (24). The improvement comprises a facility (34) for permanently mounting the telephone handset (24) vertically within the front wall (20) of the housing (12), so that the earpiece (28) positioned at top and the mouthpiece (30) positioned at bottom will permanently extend out through the front wall (20) of the housing (12) to be used by inmates within the prison (16) hands free. The handset cord (32) is permanently maintained within the housing (12), to prevent the inmates from having direct access to the telephone handset (24) and the handset cord (32), in which the inmates can no longer hang themselves with the handset cord (32) and break the handset cord (32) off and use the telephone handset (24) as a weapon.

21 Claims, 3 Drawing Sheets

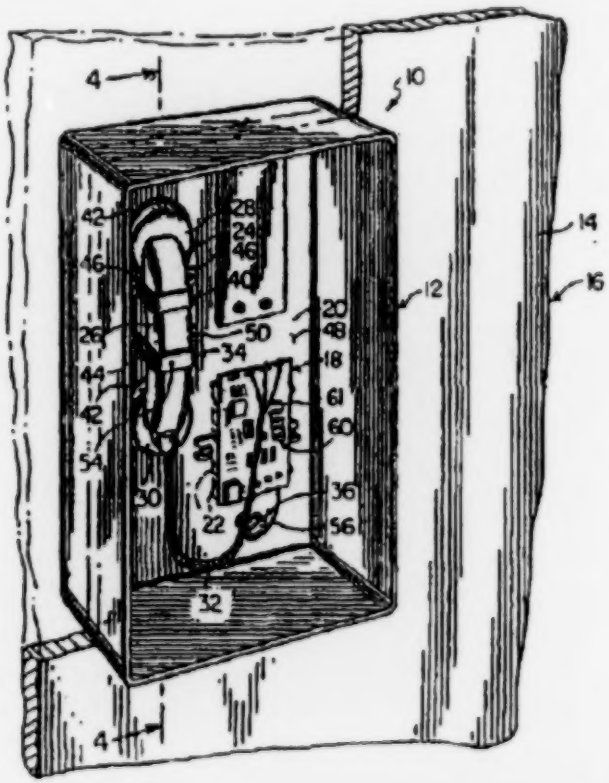

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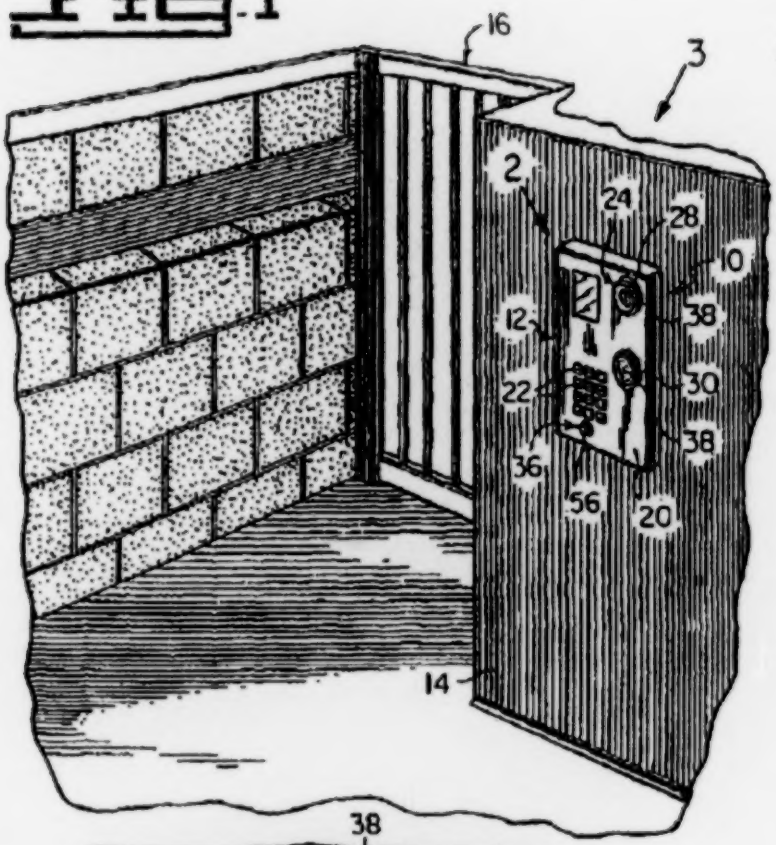
Fig. 1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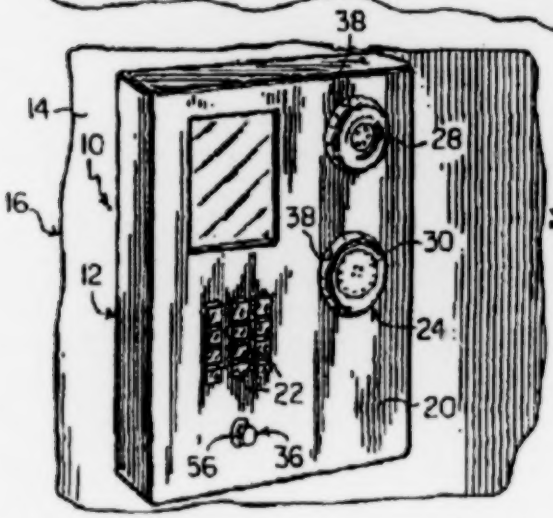
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Fig. 2

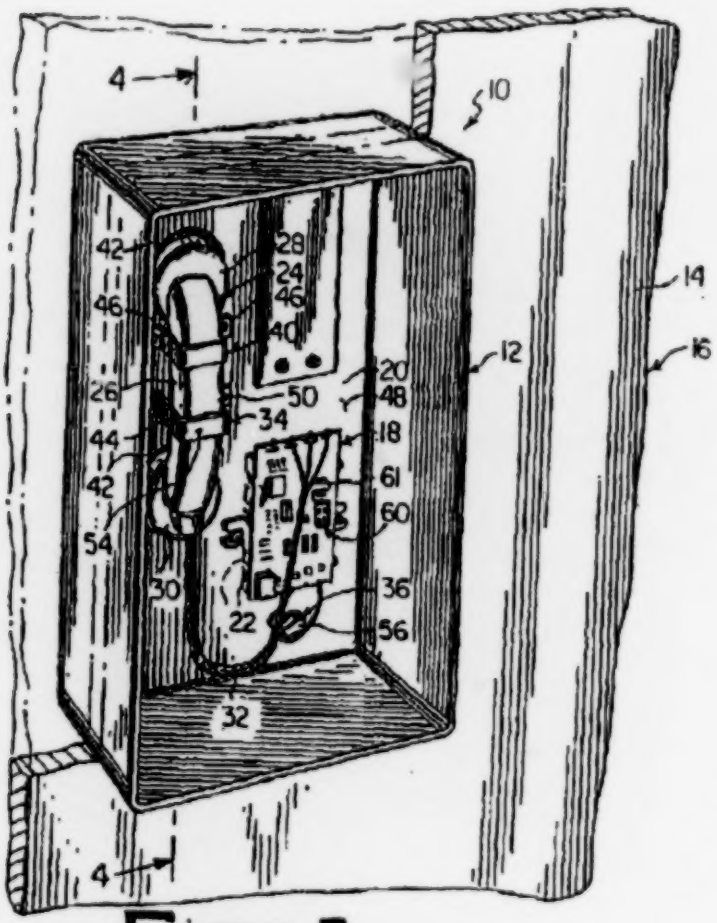
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Fig. 3

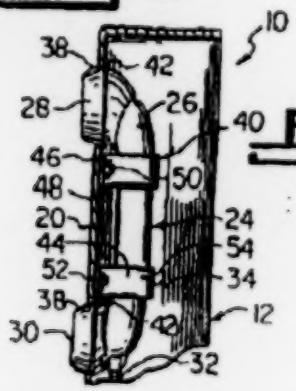
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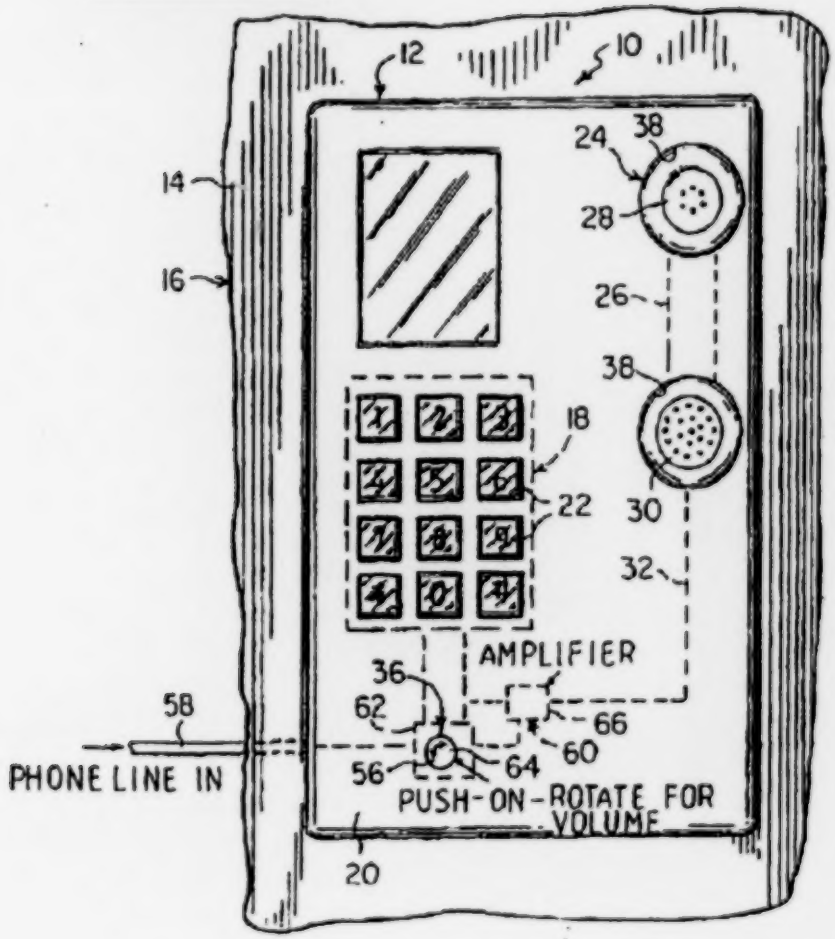
Fig. 4

Fig. 5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AMPLIFIER
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PHONE LINE IN
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64
PUSH-ON-ROTATE FOR VOLUME
20

INMATE PHONE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The instant invention relates generally to telephone equipment and more specifically it relates to an inmate phone. The inmate phone contains a conventional telephone handset and handset cord permanently mounted within a telephone housing on a wall with the earpiece and mouthpiece of the telephone handset extending through the housing to serve as a hands-free telephone for safety. The inmates within a prison can no longer hang themselves with the handset cord or break the handset cord off and use the telephone handset as a weapon. It will also reduce repair by eliminating the need to fix and replace the telephone handset, thereby saving money for the cost of maintenance thereof.

2. Description of the Prior Art

Numerous telephone equipment have been provided in prior art. For example, U.S. Pat. Nos. 2,277,907 to Goodale, Jr. et al.; 3,144,513 to Sherron; 4,101,735 to Bridenbaugh and 4,104,485 to Pessel et al. all are illustrative of such prior art. While these units may be suitable for the particular purpose to which they address, they would not be as suitable for the purposes of the present invention as heretofore described.

GOODALE, JR., WALTER D.

HERCKMANS, ALFRED

TILLMAN, RICHARD J.

TELEPHONE SET

U.S. Pat. No. 2,277,907

A distant talking and listening telephone set comprising a support having a base portion for placement on a desk or table. A bidirectional transmitter is mounted on the support. A loud-speaking receiver means is also mounted on the support between the transmitter and the base and is oriented to deliver substantially equal sound energy to both sides of the transmitter, whereby the net acoustic effect of the receiver means on the transmitter is zero.

SHERRON, PERCIVAL H.

TELEPHONE BOOTH

U.S. Pat. No. 3,144,513

In combination, a telephone booth comprising an outer shell having upright walls. Sound absorbing material inarranged within the shell to form an absorption chamber having upright walls. A means extends across the booth and closes the top of the shell and chamber. The front of the booth is permanently open to afford ingress to and egress from the chamber. A loud speaking telephone set is provided, comprising a microphone and a plurality of loud-speakers. The microphone and loud-speakers are mounted in the walls of and so as to face the center of the chamber. The loud-speakers face away from the microphone. A means is for operatively connecting the microphone and loud-speakers to a telephone line.

BRIDENBAUGH, EDWIN REDMOND

TWO-WAY LOUD SPEAKING DEVICE FOR TELEPHONE STATIONS

U.S. Pat. No. 4,101,735

A hands free telephone set uses a single transducer as microphone and speaker. A switching arrangement senses and compares the relative strength between received and transmit signals, and switches signal paths accordingly. By sensing the input of the receive path versus the output of the transmit path, the detectors are thus asymmetrically coupled, to provide a break-in capability from one side (the telephone central or calling party) only.

PESSEL, DAVID

WILHELM, NEIL C.

TELEPHONE LOUD-SPEAKER SYSTEM

U.S. Pat. No. 4,104,485

A telephone loud-speaker system for use with a telephone having a handset includes a chassis with a cradle for receiving the handset. The cradle is movable between a first position whereat the telephone's switch buttons are depressed, and a second position allowing the switch buttons to raise and actuate the telephone's electrical circuitry. Microphone, speaker and amplification devices permit use of the system without removing the handset from the cradle, without modification to telephone, and without requiring additional counter space.

SUMMARY OF THE INVENTION

A primary object of the present invention is to provide an inmate phone that will overcome the shortcomings of the prior art devices.

Another object is to provide an inmate phone in which a conventional telephone handset and handset cord are permanently mounted within the housing with the earpiece and mouthpiece of the telephone handset extending through the housing to serve as a hands free telephone for safety, whereby the inmates within a prison can no longer hang themselves with the handset cord or break the handset cord off and use the telephone handset as a weapon.

An additional object is to provide an inmate phone that will reduce repair by eliminating the need to fix and replace the telephone handset, thereby saving money for the cost of maintenance thereof.

A further object is to provide an inmate phone that is simple and easy to use.

A still farther object is to provide an inmate phone that is economical in cost to manufacture.

Further objects of the invention will appear as the description proceeds.

To the accomplishment of the above and related objects, this invention may be embodied in the form illustrated in the accompanying drawings, attention being called to the fact, however, that the drawings are illustrative only, and that changes may be made in the specific construction illustrated and described within the scope of the appended claims.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

Various other objects, features and attendant advantages of the present invention will become more fully appreciated as the same becomes better understood when considered in conjunction with the accompanying drawings, in which like reference characters designate the same or similar parts throughout the several views, and wherein;

FIG. 1 is a perspective view of an interior portion of a prison, showing the present invention mounted into a wall thereof.

FIG. 2 is a front perspective view taken in the direction of arrow 2 in FIG. 1.

FIG. 3 is a rear perspective view taken in the direction of arrow 3 in FIG. 1.

FIG. 4 is a cross sectional view with parts broken away, taken along line 4—4 in FIG. 3.

FIG. 5 is a front elevational view, showing diagrammatically another way of using a sound increasing and decreasing system in the present invention.

Similar reference characters denote corresponding features consistently throughout the attached drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Turning now descriptively to the drawings, in which similar reference characters denote similar elements throughout the several views, FIGS. 1 through 5 illustrate the present invention being an inmate phone 10. With regard to the reference numerals used, the following numbering is used throughout the various drawing figures.

10 inmate phone
12 housing of 10
14 interior wall of 16
16 prison
18 push-button dialing pad of 10
20 front wall of 10
22 push-button digit of 18
24 telephone handset of 10
26 handle of 24
28 earpiece of 24
30 mouthpiece of 24
32 handset cord of 10
34 permanently mounting facility for 24 in 12
36 dial tone actuating component of 10
38 aperture in 12
40 bracket assembly of 34
42 annular seal of 34
44 U-shaped clamp strap of 40
46 flange of 40 on 44
48 interior surface of 20
50 threaded shank of 40
52 nut of 40
54 strong durable material for 44 and 46
56 on/off push-button switch for 36
58 phone line in 14
60 sound increasing and decreasing system of 10
61 amplifier of 60 in 18
62 volume control circuit of 60 in 56
64 rotatable control knob of 62
66 amplifier

The inmate phone 10 is of the type having a housing 12 in an interior wall 14 of a prison 16. A push-button dialing pad 18 is mounted within a front wall 20 of the housing 12 with the push-button digits 22 of the push-button dialing pad 18 extending out of the front wall 20. A telphone handset 24 is provided, being a handle 26 with an earpiece 28 at one end and a mouthpiece 30 at an opposite end. A handset cord 32 is electrically connected between the push-button dialing pad 18 and the telephone handset 24.

The improvement comprises a facility 34 for permanently mounting the telephone handset 24 vertically within the front wall 20 of the housing 12, so that the earpiece 28 positioned at top and the mouthpiece 30 positioned at bottom will permanently extend out through the front wall 20 of the housing 12 to be used by inmates within the prison 16 hands free. The handset cord 32 is also permanently maintained within the housing 12, to prevent the inmates from having direct access t the telephone handset 24 and the handset cord 32, in which the inmates can no longer hang themselves with the handset cord 32 and break the handset cord 32 off and use the telephone handset 24 as a weapon. The improvement further comprises a component 36 extending through the front wall 20 of the housing 12, for manually actuating the dial tone of the inmate phone 10 independently of the telephone handset 24.

The permanent mounting facility 34 for the telephone handset 24 includes the housing 12 having two vertically spaced apart apertures 38 through the front wall 20 thereof. At least one bracket assembly 40 is secured within the front wall 20 of the housing 12, for permanently retaining the earpiece 28 and the mouthpiece 30 of the telephone handset 24 through the two vertically spaced apart apertures 38 in the front wall 20 of the housing 12. A pair of annular seals 42 are provided. Each annular seal 42 extends about the earpiece 28 and the mouthpiece 30 of the telephone handset 24 within the two vertically spaced apart apertures 38 in the front wall 20 of the housing 12.

The at least one bracket assembly 40 comists of a U-shaped clamp strap 44 being of a size to fit about the handle 26 of the telephone handset 24. A pair of flanges 46 are provided. Each flange 46 having a hole therethrough is integral with and extends outwardly from one free end of the U-shaped clamp strap 44. The flanges 46 can rest against an interior surface 48 of the front wall 20 of the housing 12. A pair of threaded shanks 50 are also provided. Each threaded shank 50 is affixed at one end to the interior surface 48 of the front wall 20 of the housing 12, so as to extend through one hole in one flange 46.

A pair of nuts 52 are also utilized. Each nut 52 is threaded onto one threaded shank 50, to hold one flange 46 securely to the interior surface 48 of the front wall 20 of the housing 12, so that the U-shaped clamp strap 44 over the handle 26 will keep the telephone handset 24 permanently in place within the housing 12. The U-shaped clamp strap 44 and the flanges 46 are fabricated out of a strong durable material 54. The strong durable material 54 can be metal or plastic. The dial tone actuating component 36 is a momentary on/off push-button switch 56 mounted through the front wall 20 of the housing 12 and is electrically connected between a phone line 58 in the interior wall 14 of the prison 16, the push-button dialing pad 18 and the telephone handset 24.

A system 60, as shown in FIGS. 3 and 5, can be electrically connected to the telephone handset 24 for increasing and decreasing sound coming out of the earpiece 28 and sound going into the mouthpiece 30 of the telephone handset 24. The sound increasing and decreasing system 60 in FIG. 3, is an amplifier 61 built into the push-button dialing pad 18 of the inmate phone 10.

The sound increasing and decreasing system 60 in FIG. 5, consists of the momentary on/off push-button switch 56 having a built-in volume control circuit 62 with a rotatable control knob 64. An amplifier 66 is electrically connected between the volume control circuit 62 and the telephone handset 24. When the control knob 64 is manually rotated in a clockwise direction, the sound coming out of the earpiece 28 and the sound going into the mouthpiece 30 will be increased. When the control knob 64 is manually rotated in a counterclockwise direction, the sound coming out of the earpiece 28 and the sound going into the mouthpiece 30 will be decreased.

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It will be understood that each of the elements described above, or two or more together may also find a useful application in other types of methods differing from the type described above.

While certain novel features of this invention have been shown and described are pointed out in the annexed claims, it is not intended to be limited to the details above, since it will be understood that various omissions, modifications, substitutions and changes in the forms and details of the device illustrated and in its operation can be made by those skilled in the art without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can, by applying current knowledge, readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention.

What is claimed is new and desired to be protected by Letters Patent is set forth in the appended claims:

1. An inmate phone of the type having a housing in an interior wall of a prison, a push-button dialing pad mounted within a front wall of the housing with the push-button digits of the push-button dialing pad extending out of the front wall, a telephone handset being a handle with an earpiece at one end and a mouthpiece at an opposite end, a handset cord electrically connected between the push-button dialing pad and the telephone handset, wherein the improvement comprises means for permanently mounting the telephone handset vertically within the front wall of the housing, so that the earpiece positioned at top and the mouthpiece positioned at bottom will permanently extend out through the front wall of the housing to be used by inmates within the prison hands free while the handset cord is also permanently maintained within the housing, to prevent the inmates from having direct access to the telephone handset and the handset cord, in which the inmates can no longer hang themselves with the handset cord and break the handset cord off and use the telephone handset as a weapon.

2. An inmate phone as recited in claim 1, wherein the improvement further comprises means extending through the front wall of the housing, for manually actuating the dial tone of the inmate phone independently of the telephone handset.

3. An inmate phone as recited in claim 1, wherein said permanently mounting means for the telephone handset includes:

a) the housing having two vertically spaced apart apertures through the front wall thereof;

b) at least one bracket assembly secured within the front wall of the housing, for permanently retaining the earpiece and the mouthpiece of the telephone handset through said two vertically spaced apart apertures in the front wall of the housing; and

c) a pair of annular seals, in which each said annular seal extends about the earpiece and the mouthpiece of the telephone handset within said two vertically spaced apart apertures in the front wall of the housing.

4. An inmate phone as recited in claim 3, wherein said at least one bracket assembly includes:

a) a U-shaped clamp strap being of a size to fit about the handle of the telephone handset;

b) a pair of flanges, in which each said flange having a hole therethrough is integral with and extends outwardly from one free end of said U-shaped clamp strap, so that said flanges can rest against an interior surface of the front wall of the housing;

c) a pair of threaded shanks, in which each said threaded shank is affixed at one end to the interior surface of the front wall of the housing, so as to extend through one hole in one said flange; and

d) a pair of nuts, in which each said nut is threaded onto one said threaded shank to hold one said flange securely to the interior surface of the front wall of the housing, so that said U-shaped clamp strap over the handle will keep the telephone handset permanently in place within the housing.

5. An inmate phone as recited in claim 4, wherein said U-shaped clamp strap and said flanges are fabricated out of a strong durable material.

6. An inmate phone as recited in claim 5, wherein said strong durable material is metal.

7. An inmate phone as recited in claim 5, wherein said strong durable material is plastic.

8. An inmate phone as recited in claim 2, wherein said dial tone actuating means includes a momentary on/off push-button switch mounted through the front wall of the housing and electrically connected between a phone line in the interior wall of the prison, the push-button dialing pad and the telephone handset.

9. An inmate phone as recited in claim 8, further including means electrically connected to the telephone handset for increasing and decreasing sound coming out of the earpiece and sound going into the mouthpiece of the telephone handset.

10. An inmate phone as recited in claim 9, wherein said sound increasing and decreasing means is an amplifier built into the push-button dialing pad.

11. An inmate phone as recited in claim 9, wherein said sound increasing and decreasing means includes:

a) said momentary on/off push-button switch having a built-in volume control circuit with a rotatable control knob; and

b) an amplifier electrically connected between said volume control circuit and the telephone handset, so that when said control knob is manually rotated in a clockwise direction the sound coming out of the earpiece and the sound going into the mouthpiece will be increased, and when said control knob is manually rotated in a counterclockwise direction the sound coming out of the earpiece and the sound going into the mouthpiece will be decreased.

12. An inmate phone of the type having a housing in an interior wall of a prison, a push-button dialing pad mounted within a front wall of the housing with the push-button digits of the push-button dialing pad extending out of the front wall, a telephone handset being a handle with an earpiece at one end and a mouthpiece at an opposite end, a handset cord electrically connected between the push-button dialing pad and the telephone handset, wherein the improvement comprises:

a) means for permanently mounting the telephone handset vertically within the front wall of the housing, so that the earpiece positioned at top and the mouthpiece positioned at bottom will permanently extend out through the front wall of the housing to be used by inmates within the prison hands free while the handset cord is also permanently maintained within the housing, to prevent the inmates from having direct access to the telephone handset and the handset cord, in which the inmates can no longer hang themselves with the handset cord and break the handset cord off and use the telephone handset as a weapon; and

b) means extending through the front wall of the housing, for manually actuating the dial tone of the inmate phone independently of the telephone handset.

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13. An inmate phone as recited in claim 12, wherein said permanently mounting means for the telephone handset includes:

a) the housing having two vertically spaced apart apertures through the front wall thereof;

b) at least one bracket assembly secured within the front wall of the housing, for permanently retaining the earpiece and the mouthpiece of the telephone handset through said two vertically spaced apart apertures in the front wall of the housing; and

c) a pair of annular seals, in which each said annular seal extends about the earpiece and the mouthpiece of the telephone handset within said two vertically spaced apart apertures in the front wall of the housing.

14. An inmate phone as recited in claim 13, wherein said at least one bracket assembly includes:

a) a U-shaped clamp strap being of a size to fit about the handle of the telephone handset;

b) a pair of flanges, in which each said flange having a hole therethrough is integral with and extends outwardly from one free end of said U-shaped clamp strap, so that said flanges can rest against an interior surface of the front wall of the housing;

c) a pair of threaded shanks, in which each said threaded shank is affixed at one end to the interior surface of the front wall of the housing, so as to extend through one hole in one said flange; and

d) a pair of nuts, in which each said nut is threaded onto one said threaded shank to hold one said flange securely to the interior surface of the front wall of the housing, so that said U-shaped clamp strap over the handle will keep the telephone handset permanently in place within the housing.

15. An inmate phone as recited in claim 14, wherein said U-shaped clamp strap and said flanges are fabricated out of a strong durable material.

16. An inmate phone as recited in claim 15, wherein said strong durable material is metal.

17. An inmate phone as recited in claim 15, wherein said strong durable material is plastic.

18. An inmate phone as recited in claim 15, wherein said dial tone actuating means includes a momentary on/off push-button switch mounted through the front wall of the housing and electrically connected between a phone line in the interior wall of the prison, the push-button dialing pad and the telephone handset.

19. An inmate phone as recited in claim 18, further including means electrically connected to the telephone handset for increasing and decreasing sound coming out of the earpiece and sound going into the mouthpiece of the telephone handset.

20. An inmate phone as recited in claim 19, wherein said sound increasing and decreasing means is an amplifier built into the push-button dialing pad.

21. An inmate phone as recited in claim 19, wherein said sound increasing and decreasing means includes:

a) said momentary on/off push-button switch having a built-in volume control circuit with a rotatable control knob; and

b) an amplifier electrically connected between said volume control circuit and the telephone handset, so that when said control knob is manually rotated in a clockwise direction the sound coming out of the earpiece and the sound going into the mouthpiece will be increased, and when said control knob is manually rotated in a counterclockwise direction the sound coming out of the earpiece and the sound going into the mouthpiece will be decreased.

* * * * *

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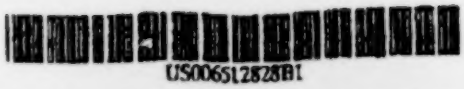
US006512828B1

(12) **United States Patent**
Styron

(10) **Patent No.: US 6,512,828 B1**
(45) **Date of Patent: Jan. 28, 2003**

(54) **WALL MOUNTED TELEPHONE**

(75) Inventor: Mark Styron, 3118 Lausanne, Pasadena, TX (US) 77505

(73) Assignee: Mark Styron

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 11 days.

(21) Appl. No.: 09/709,753

(22) Filed: Nov. 11, 2000

Related U.S. Application Data

(63) Continuation of application No. 09/459,314, filed on Dec. 10, 1999, now abandoned, which is a continuation-in-part of application No. 09/017,982, filed on Feb. 3, 1998, now Pat. No. 6,009,160.

(51) Int. Cl.[7] H04M 1/00

(52) U.S. Cl. 379/453

(58) Field of Search 379/453, 433.01, 379/433.07, 428.01, 368, 420.01; 455/90

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4,104,485	A	8/1978	Pasaci et al.	
5,023,936	A *	6/1991	Szentesowski et al.	455/90
5,371,780	A *	12/1994	Nevo et al.	379/433.01
6,008,169	A *	12/1999	Styron	379/453

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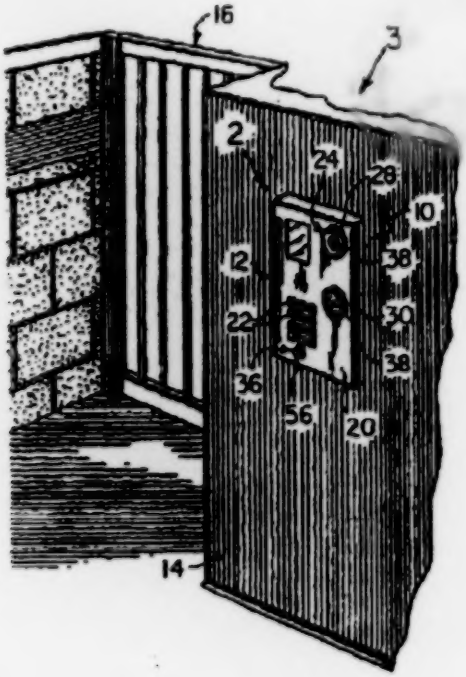
Primary Examiner—Jack Chiang
(74) *Attorney, Agent, or Firm*—Kenneth A. Keeling; Keeling & Hudson LLC

(57) **ABSTRACT**

A telephone using conventional telephone mechanical and electrical components mounted within a telephone housing, typically mounted on a wall, with the earpiece and mouthpiece mounted within the telephone. To operate, the user pushes an on/off switch, dials his number, and then places his ear next to the fixed earpiece. The telephone is designed for use in prisons so inmates within a prison can not hang themselves with a handset cord or break a handset and handset cord off for use as a weapon. The telephone is also designed for use in any high crime or remote area to reduce the potential for vandalism. The telephone design reduces the cost of maintenance by eliminating the need to fix and replace a telephone handset.

9 Claims, 4 Drawing Sheets



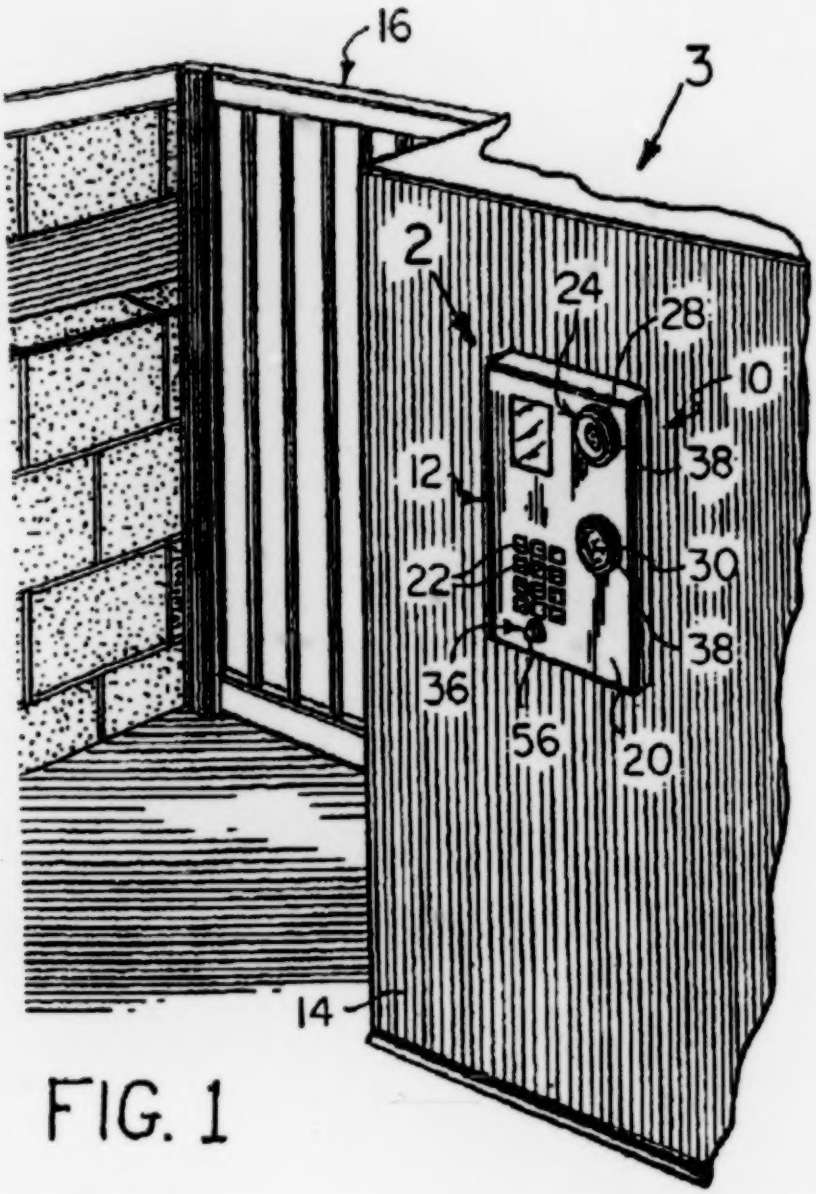


FIG. 1

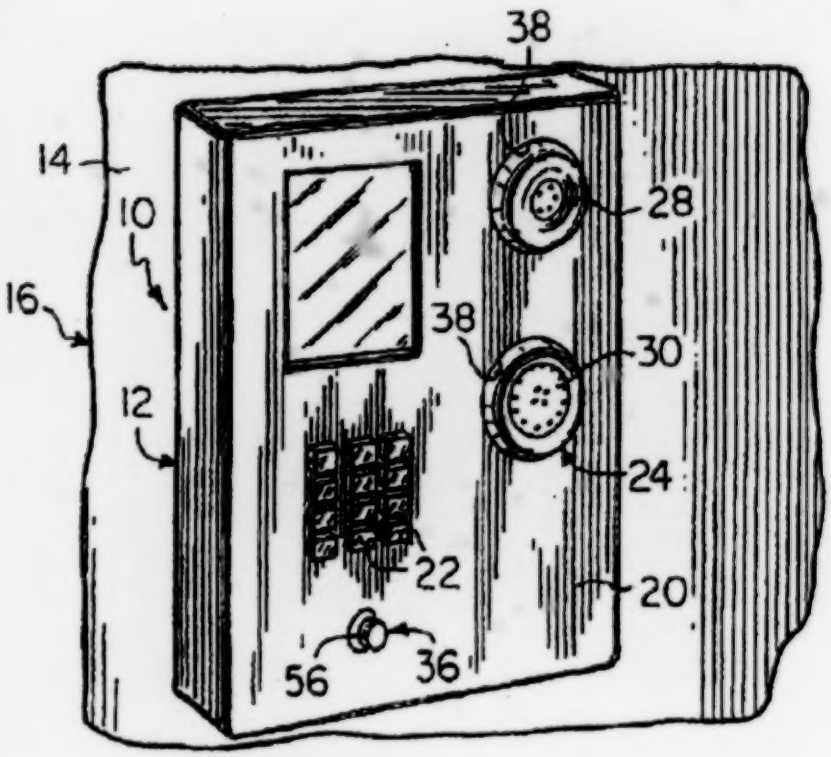


FIG. 2

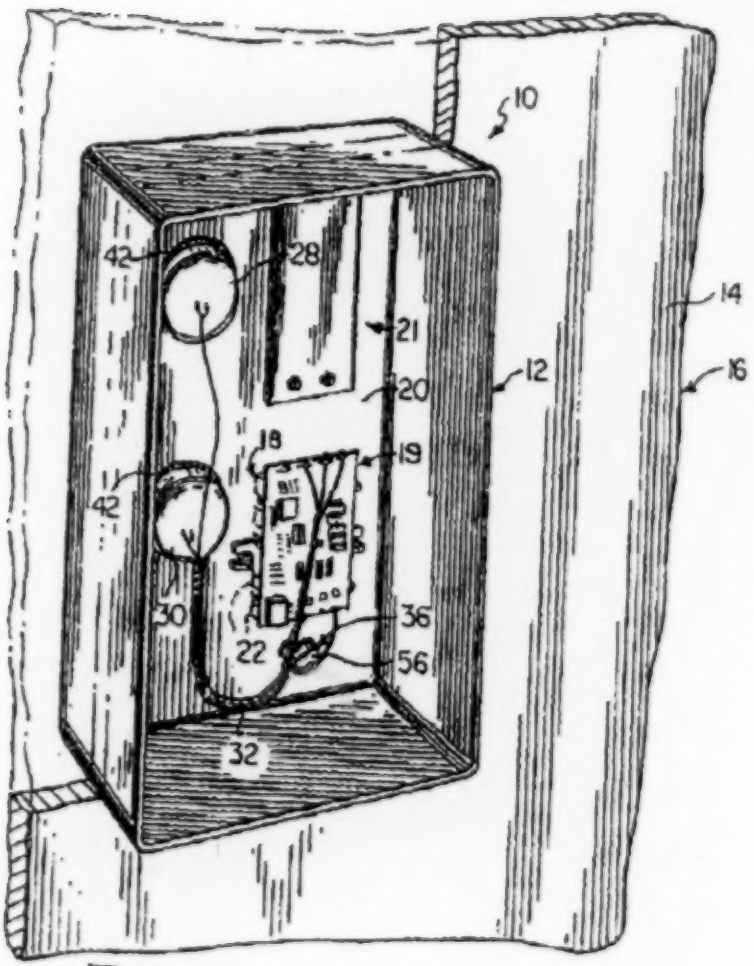


FIG. 3

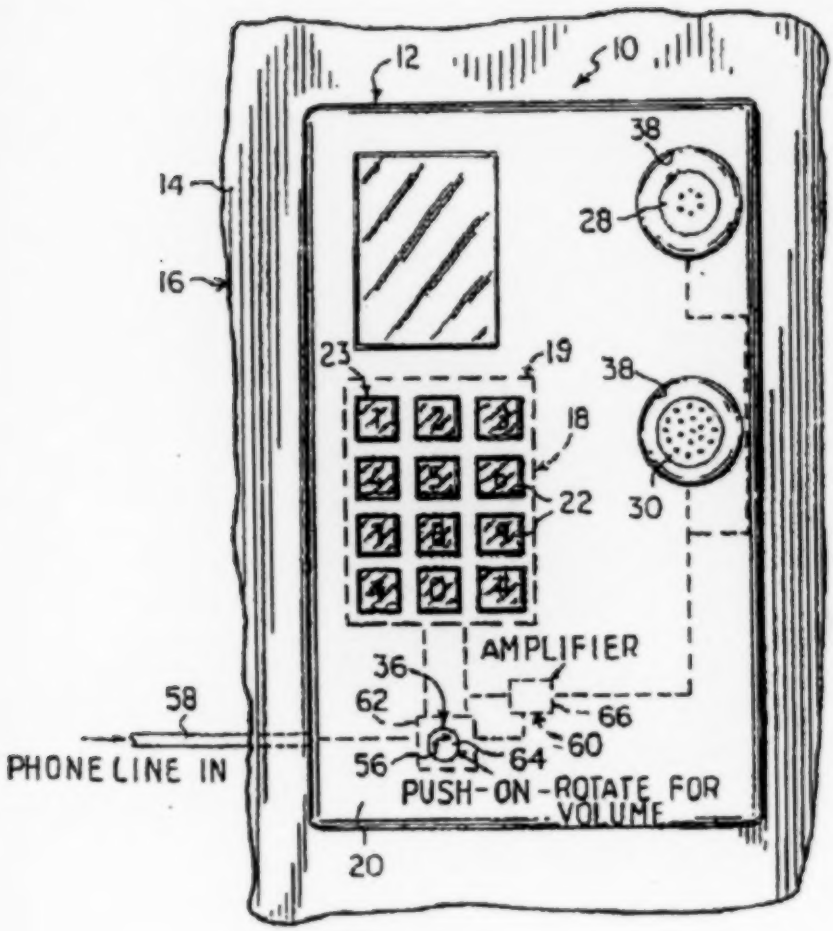

12
10
38
14
28
16
23
19
38
18
22
30
AMPLIFIER
36
58
62
66
60
PHONE LINE IN
56
64
PUSH-ON-ROTATE FOR VOLUME
20

FIG. 4

WALL MOUNTED TELEPHONE

CROSS-REFERENCE TO RELATED APPLICATIONS

This is a continuation under 37 CFR 1.53(b) to application Ser. No. 09/459,314, "Wall Mounted Telephone", filed on Dec. 10, 1999 now abandoned by Mark Styron, which is a continuation-in-part application under 37 CFR 1.53(b) to application Ser. No. 09/017,982, "Inmate Phone," filed on Feb. 3, 1998 now U.S. Pat. No. 6,009,169 by Mark Styron. The parent application and continuation-in-part application are under examination in Group Art Unit 2742 by Examiner J. Chiang.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not applicable.

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to telephone equipment and more specifically to a structure for a telephone for use by inmates or in other environments wherein the telephone is subject to abuse (hereinafter referred to as an inmate telephone). The inmate phone contains conventional telephone mechanical and electrical components mounted within a telephone housing, typically mounted on a wall, with the earpiece and mouthpiece mounted within the housing to serve as a hands-free telephone for safety. The inmates within a prison can no longer hang themselves with a handset cord or break off the handset and handset cord to use as a weapon. This phone reduces repairs by eliminating the need to fix and replace the telephone handset, thereby saving money for the cost of maintenance.

2. Description of the Prior Art

Numerous hands-free telephone equipment systems have been taught in prior art. U.S. Pat. No. 2,277,907 issued to Goodale, Jr. et al. discloses a speaker attachment for a conventional telephone. U.S. Pat. No. 3,144,513 issued to Sherrow teaches a partially enclosed telephone stall with a microphone and speaker mounted in the enclosure wall of the booth. U.S. Pat. No. 4,101,735 issued to Bridenbaugh uses a shared transducer, alternatingly functioning as a speaker and a microphone, connected to a conventional telephone. U.S. Pat. No. 4,104,485 issued to Pessel et al. discloses a loudspeaker system mounted over a conventional telephone. None of the prior art utilizes a design for a telephone that can be wall mounted and is self-contained with minimal external parts as described herein.

BRIEF SUMMARY OF THE INVENTION

Accordingly, the objectives of this invention are to provide, inter alia, a new and improved telephone that:

- provides hands-free operation;
- is easy to use;
- is economical to manufacture;
- is resistant to vandalism and thus low-maintenance;
- can be mounted on a wall; and
- has no external cord, handset or other external parts that could be used as a weapon or means for vandalism or self-injury.

These objectives are accomplished by a mountable telephone that uses standard telecommunications and electronic components, including a push-button dialing pad, earpiece, mouthpiece, electronic circuitry, and switching circuitry.

To the accomplishment of the above and related objects, this invention may be embodied in the form illustrated in the accompanying drawings. The drawings are illustrative only, and changes may be made in the specific construction illustrated and described within the scope of the appended claims. Other objects of the invention will become apparent from time to time throughout the specification hereinafter disclosed.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of an interior portion of a prison, showing the present invention mounted into a wall thereof.

FIG. 2 is a front perspective view of the invention taken in the direction of arrow 2 in FIG. 1.

FIG. 3 is a rear perspective view of the invention taken in the direction of arrow 3 in FIG. 1.

FIG. 4 is a front view of the invention, further showing diagrammatically an electrical circuit incorporating a volume control for the handset.

Similar reference characters denote corresponding features consistently throughout the attached drawings.

DETAILED DESCRIPTION OF THE INVENTION

The present invention is a telephone described as inmate phone 10, generally depicted in FIGS. 1–4, of the type having housing 12, capable of being mounted to a building wall, such as building wall 14 of prison 16. While inmate phone 10 is described as being mounted and used in prison 16, it is understood that inmate phone 10 may be used, mounted or free standing, in any location where a telephone is desired that encompasses the safety and security features described herein. Inmate phone 10 may be modified for use with coin or card payment mechanisms using standard methods and electrical/mechanical designs for this feature.

Typically, inmate phone 10 is mounted to building wall 14 by mechanical and locking attachment of housing 12 to a mounting plate (not shown) that is anchored to building wall 14. Housing 12 includes a housing front wall 20. Housing front wall 20 includes a front wall inner surface 21. Located within housing 12, and typically attached to front wall inner surface 21, are electronic circuit board 19, earpiece 28 and mouthpiece 30.

Typically, push-button dialing pad 18 is a component of electronic circuit board 19, which is mounted to the front wall inner surface 21. In an alternative embodiment, push-button dialing pad 18 can be separate from electronic circuit board 19 and electrically connected. A plurality of push-button digits 22 of push-button dialing pad 18 extends outward through push-button apertures 23 through housing front wall 20. Plurality of push-button digits 22 extend a sufficient distance to afford full travel distance for each of the push-button digits 22 to effect activation of the electric information switch associated with each push-button digit 22.

Aural output and input to inmate phone 10 is provided respectively by earpiece 28 and mouthpiece 30, both being mounted to the interior of housing front wall 20 and extending outward from housing front wall 20 through aural apertures 38. Earpiece 28 and mouthpiece 30 are each electrically connected to electronic circuit board 19 by connection wire 32. Earpiece 28 and mouthpiece 30 are mounted such that earpiece 28 is positioned above mouthpiece 30. Earpiece 28 and mouthpiece 30 are affixed to

SA-15

housing front wall 20 using any appropriate form of attachment known in the art. This means of attachment may be an adhesive, mechanical clamps (not shown) interior to housing 12, or any other means of attachment that provides secure mounting of earpiece 28 and mouthpiece 30 to housing 12 such that they can not be removed via the exterior of housing 12. In the preferred embodiment, earpiece 28 and mouthpiece 30 are sealed into aural apertures 38 by annular seal 42. Each annular seal 42 extends about earpiece 28 and mouthpiece 30 within the two vertically spaced apart apertures 38 in the housing front wall 20 of the housing 12.

In an alternative embodiment, earpiece 28 and mouthpiece 30 are mounted within inmate phone 10, preferably to front wall inner surface 21, such that no portion of earpiece 28 or mouthpiece 30 extend through housing front wall 20. In this embodiment, aural communication to earpiece 28 and mouthpiece 30 is afforded through a sound transparent section of housing front wall 20, such as a plurality of small holes (not shown). This sound transparent section provides protection to earpiece 28 and mouthpiece 30, while allowing sound to pass through.

Dial tone actuating switch 36 extends through housing front wall 20 of housing 12 via dial tone actuating switch aperture 37, for manually actuating the dial tone of the inmate phone 10. In the preferred embodiment, actuating component 36 is an on/off push-button switch 56 as is known in the art. Push button switch 56 may require constant pressure applied by the telephone user to maintain electrical circuit continuity, or may be a toggle push button requiring a first depression to actuate and a second depression to deactuate. In an alternative embodiment, actuating component 36 may be any on/off electrical switch capable of completing an electric circuit, including but not limited to a toggle lever switch, a relay or a breaker switch. However, it is a critical feature of actuating component 36 that it be of limited dimension to prevent injury to the user from being struck by actuating component 36 or its related structure, and for actuating component 36 to be ergonomically correct for proper usage. This ergonomic correctness includes proper positioning on housing front wall 20, proper throw distance of actuating component 36, and absence of surround structure, such as a phone book, that creates an ergonomic hazard. Dial tone actuating switch 36 is electrically connected between phone line 58 and electronic circuit board 19. Typically, phone line 58, providing electrical access to the remote telephone routing switching equipment, enters housing 12 through the wall mounting plate (not shown) behind mounted housing 12, such that phone line 58 is not exposed to vandalism or environmental damage.

Earpiece 28, mouthpiece 30 and push-button dialing pad 18 are also electrically and functionally connected to electronic circuit board 19. Electronic circuit board 19 includes electronic components known in the art of telephone and electrical switching to receive electrical signals from mouthpiece 30 and phone line 58, to transmit electrical signals to earpiece 28 and phone line 58, and to receive and process electrical input from push-button dialing pad 18 for transmission to phone line 58. In the preferred embodiment, inmate phone 10 is capable of dialing out to another phone, but is not enabled to receive incoming phone calls.

An assemblage 60, as shown in FIG. 4, can be electrically connected to earpiece 28 and mouthpiece 30 for increasing and decreasing sound coming out of earpiece 28 and sound going into mouthpiece 30. In one embodiment, the sound increasing and decreasing assemblage 60 consists of the on/off push-button switch 56 having a built-in volume control circuit 62 with a rotatable control knob 64.

Amplifier 66 is electrically connected between volume control circuit 62 and earpiece 28 and mouthpiece 30. Typically, amplifier 66 is a component of electronic circuit board 19. Typically, when the control knob 64 is manually rotated in a clockwise direction, the sound coming out of the earpiece 28 and the sound going into the mouthpiece 30 will be increased. When the control knob 64 is manually rotated in a counterclockwise direction, the sound coming out of the earpiece 28 and the sound going into the mouthpiece 30 will be decreased.

In the preferred embodiment, inmate phone 10 is mounted on building wall 14 at a height such that earpiece 28 is approximately level with the ear of an average height adult user. To use inmate phone 10, the user actuates actuating component 36. With actuating component 36 actuated, inmate phone 10 receives a dial tone and the user dials the desired phone number. The user then places his ear next to extended earpiece 28, or in the alternative embodiment next to the sound transparent section of housing front wall 20 in front of earpiece 28, to hear the person being called. The vertical orientation of mouthpiece 30 is such that mouthpiece 30 is ergonomically oriented below earpiece 28 for normal speech input into mouthpiece 30 when the user's ear is placed next to earpiece 28. In the preferred embodiment, the volume for earpiece 28 and mouthpiece 30 is controlled by control knob 64 as described above. When the call is finished, the user disengages actuating component 36, either by releasing it or by depressing it a second time, depending on the type of switch used for actuating component 36.

It is understood that each of the elements described above, or two or more together may also find a useful application in other types of methods differing from the type described above. While certain novel features of this invention have been shown and described are pointed out in the annexed claims, it is not intended to be limited to the details above, since it will be understood that various omissions, modifications, substitutions and changes in the forms and details of the device illustrated and in its operation can be made by those skilled in the art without departing in any way from the spirit of the present invention.

I claim:

1. A telephone for permanent mounting to a mounting surface in environments wherein the telephone is subject to abuse, comprising:

a housing, a mouthpiece, an earpiece, an electronic circuit board, a push-button dialing pad, a phone line and a dial tone actuating switch;

said housing including a housing front wall;

said housing front wall including a front wall inner surface;

said housing front wall including a plurality of aural apertures, a plurality of push-button apertures and a dial tone actuating switch aperture;

said mouthpiece and said earpiece mounted to said front wall;

said mouthpiece and said earpiece extending outward from said housing through said aural apertures such that a user places his ear next to said aperture for said earpiece;

said earpiece and said mouthpiece each being secured to said aural apertures by an angular seal;

said earpiece and said mouthpiece presenting an external relief surface for positioning said ear and a mouth of said user;

said mouthpiece and said earpiece electrically connected to said electronic circuit board;

said electronic circuit board further electrically connected to said push-button dialing pad, said phone line and said dial tone actuating switch;

said push-button dialing pad mounted to said front wall inner surface;

said push-button dialing pad including a plurality of push-button digits;

said push-button digits extending through said plurality of push-button apertures;

said dial tone actuating switch electrically connected to said phone line and said electronic circuit board;

said dial tone actuating switch mounted on said front wall inner surface and extending through said dial tone actuating switch aperture;

said phone line extending behind said mounting surface when said phone is in a mounted position;

and said phone operable in said mounted position by access to said mouthpiece, said earpiece, said dialing pad and said dial tone actuating switch.

2. A telephone as in claim 1, further including means electrically connected to the earpiece and the mouthpiece for increasing and decreasing sound coming out of the earpiece and sound going into the mouthpiece of the telephone handset.

3. A telephone as in claim 2, wherein said sound increasing and decreasing means includes:

said dial tone actuating switch having a built-in volume control circuit with a rotatable control knob; and

an amplifier electrically connected between said volume control circuit, said mouthpiece, and said earpiece, such that manual rotation of said control knob selectively increases and decreases volume to and from said mouthpiece and said earpiece.

4. A telephone as in claim 1, wherein said telephone is mounted on a wall in a prison.

5. A telephone as in claim 1, wherein said telephone is mounted on a wall at a height and vertically oriented such that a user can stand adjacent said telephone with said user's ear proximate said earpiece and said user's mouth proximate said mouthpiece.

6. A telephone for permanent mounting to a mounting surface in environments wherein the telephone is subject to abuse, comprising:

a housing, a mouthpiece, an earpiece, in electronic circuit board, a push-button dialing pad, a phone line and a dial tone actuating switch;

said housing including a housing front wall;

said housing front wall including a plurality of aural apertures, a plurality of push-button apertures and a dial tone actuating switch aperture;

said mouthpiece and said earpiece mounted to said front wall;

said mouthpiece and said earpiece extending outward from said housing through said aural apertures;

said earpiece and said mouthpiece presenting an external relief surface for positioning said ear and a mouth of said user;

said mouthpiece and said earpiece electrically connected to said electronic circuit board;

said electronic circuit board further electrically connected to said push-button dialing pad, said phone line and said dial tone actuating switch,

said push-button dialing pad mounted to said front wall;

said push-button digits extending, through said plurality of push-button apertures;

said dial tone actuating switch electrically connected to said phone line and said electronic circuit board;

said dial tone actuating switch mounted on said front wall and extending through said dial tone actuating switch aperture;

said housing extending outward from a mounting surface when said telephone is in a mounted position;

said phone line extending behind said mounting surface when said telephone is in a mounted position; and

access to said telephone for operation limited to said mouthpiece, said earpiece, said dialing pad and said dial tone actuating switch.

7. A telephone as in claim 6, further including;

volume control means electrically connected to the earpiece and the mouthpiece for increasing and decreasing sound coming out the earpiece and sound going into the mouthpiece of the telephone handset.

8. A telephone as in claim 6, wherein said telephone is mounted on a wall in a prison.

9. A telephone as in claim 6, wherein said telephone is mounted on a wall at a height and vertically oriented such that a user can stand adjacent said telephone with said user's ear proximate said earpiece and said user's mouth proximate said mouthpiece.

* * * * *